



## GREER ENGINEERING TRANSMITTAL MEMO

8477 Veterans Memorial Highway, Masontown, WV 26542  
Phone: (304) 864-5411

**To:**

Ms. Bev McKeone, Program Manager  
WVDEP – Division of Air Quality  
601 57<sup>th</sup> Street, SE  
Charleston, WV 25304

**Date:**

January 31, 2017

**Sent Via:**

U.S.P.S.

Bev,

Attached is a request for Permit Determination for the installation of a new control device at Greer Industries, Inc. dba Greer Lime Company's plant located in Riverton, Pendleton County, West Virginia (Plant ID No. 071-00001).

Please let me know if you have any questions, or require additional information.

Regards,

Scott



**From:** Scott Kisner

**Cell #:** 304-276-5263

**Email:** skisner@greerindustries.com

# **Request for Permit Determination**

**(45 CSR 13)**

**West Virginia Department of Environmental Protection**

**Division of Air Quality**



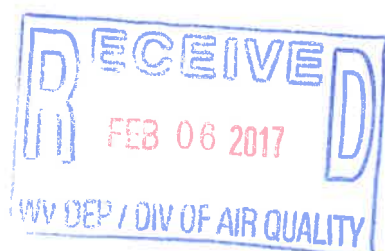
**Greer Industries, Inc. dba Greer Lime Company**

**Riverton Facility**

**Riverton, Pendleton County, West Virginia**

**Plant ID No. 071-00001**

**January 2017**



**GREER ENGINEERING**

**8477 Veterans Memorial Highway**

**Masontown, West Virginia 26542**

**(304) 864-5411**

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WEST VIRGINIA  
DEPARTMENT OF ENVIRONMENTAL PROTECTION  
DIVISION OF AIR QUALITY  
601 57<sup>th</sup> Street, SE  
Charleston, WV 25304  
Phone: (304) 926-0475  
www.dep.wv.gov/daq

**PERMIT DETERMINATION FORM  
(PDF)**

FOR AGENCY USE ONLY: PLANT I.D. # \_\_\_\_\_

PDF # \_\_\_\_\_ PERMIT WRITER: \_\_\_\_\_

1. NAME OF APPLICANT (AS REGISTERED WITH THE WV SECRETARY OF STATE'S OFFICE):

**Greer Industries, Inc. dba Greer Lime Company**

2. NAME OF FACILITY (IF DIFFERENT FROM ABOVE):

**Riverton Facility**

3. NORTH AMERICAN INDUSTRY  
CLASSIFICATION SYSTEM (NAICS)  
CODE:

**327410 and 212312**

4A. MAILING ADDRESS:

**8477 Veterans Memorial Hwy., Masontown, WV 26542**

4B. PHYSICAL ADDRESS:

**1088 Germany Valley Limestone Rd., Riverton, WV 26814**

5A. DIRECTIONS TO FACILITY (PLEASE PROVIDE MAP AS ATTACHMENT A): **Attached**

**Approximately 4 miles south of Seneca Rocks National Park on US Route 33 East, turn left on to Germany Valley Limestone Road. Plant is located on the right, approximately one mile from turn off of US Route 33.**

5B. NEAREST ROAD:

**Germany Valley Limestone Rd.**

5C. NEAREST CITY OR TOWN:

**Riverton**

5D. COUNTY:

**Pendleton**

5E. UTM NORTHING (KM):

**4,293.0**

5F. UTM EASTING (KM):

**640.0**

5G. UTM ZONE:

**17**

6A. INDIVIDUAL TO CONTACT IF MORE INFORMATION IS REQUIRED:

**Scott R. Kisner**

6B. TITLE:

**Env. Compliance Mgr.**

6C. TELEPHONE:

**304-864-5411 or 304-567-2141**

6D. FAX:

**304-864-5458**

6E. E-MAIL:

**skisner@greerindustries.com**

7A. DAQ PLANT I.D. NO. (FOR AN EXISTING FACILITY ONLY):

**071-00001**

7B. PLEASE LIST ALL CURRENT 45CSR13, 45CSR14, 45CSR19  
AND/OR TITLE V (45CSR30) PERMIT NUMBERS ASSOCIATED  
WITH THIS PROCESS (FOR AN EXISTING FACILITY ONLY):

**R13-1381A, R13-1788 and R30-07100001-2015**

7C. IS THIS PDF BEING SUBMITTED AS THE RESULT OF AN ENFORCEMENT ACTION? IF YES, PLEASE LIST:

**No**

8A. TYPE OF EMISSION SOURCE (CHECK ONE):

☐ NEW SOURCE

☐ ADMINISTRATIVE UPDATE

☐ MODIFICATION

☒ OTHER (PLEASE EXPLAIN IN 11B)

8B. IF ADMINISTRATIVE UPDATE, DOES DAQ HAVE THE  
APPLICANT'S CONSENT TO UPDATE THE EXISTING  
PERMIT WITH THE INFORMATION CONTAINED HEREIN?

☐ YES

☐ NO

☒ N/A

9. IS DEMOLITION OR PHYSICAL RENOVATION AT AN EXISTING FACILITY INVOLVED?

☐ YES

☒ NO

10A. DATE OF ANTICIPATED INSTALLATION OR CHANGE:

**May 2017**

10B. DATE OF ANTICIPATED START-UP:

**June 2017**

11A. PLEASE PROVIDE A DETAILED PROCESS FLOW DIAGRAM SHOWING EACH PROPOSED OR MODIFIED PROCESS EMISSION  
POINT AS ATTACHMENT B. **Attached**

11B. PLEASE PROVIDE A DETAILED PROCESS DESCRIPTION AS ATTACHMENT C. **Attached**

12. PLEASE PROVIDE MATERIAL SAFETY DATA SHEETS (MSDS) FOR ALL MATERIALS PROCESSED, USED OR PRODUCED AS  
ATTACHMENT D. FOR CHEMICAL PROCESSES, PLEASE PROVIDE A MSDS FOR EACH COMPOUND EMITTED TO AIR. **Attached**

**13A. REGULATED AIR POLLUTANT EMISSIONS:**

⇒ **FOR A NEW FACILITY**, PLEASE PROVIDE PLANT WIDE EMISSIONS BASED ON THE POTENTIAL TO EMIT (PTE) FOR THE FOLLOWING AIR POLLUTANTS INCLUDING ALL PROCESSES.

⇒ **FOR AN EXISTING FACILITY**, PLEASE PROVIDE THE PROPOSED CHANGE IN EMISSIONS BASED ON THE PTE OF ALL PROCESS CHANGES FOR THE FOLLOWING AIR POLLUTANTS.

PTE FOR A GIVEN POLLUTANT IS TYPICALLY BEFORE AIR POLLUTION CONTROL DEVICES AND IS COLLECTED BASED ON THE MAXIMUM DESIGN CAPACITY OF PROCESS EQUIPMENT.

POLLUTANT	HOURLY PTE (LB/HR)	YEARLY PTE (TON/YR) (HOURLY PTE MULTIPLIED BY 8760 HR/YR) DIVIDED BY 2000 LB/TON
PM	0	0
PM <sub>10</sub>	0	0
VOCs	0	0
CO	0	0
NO <sub>x</sub>	0	0
SO <sub>2</sub>	0	0
Pb	0	0
HAPs (AGGREGATE AMOUNT)	0	0
TAPs (INDIVIDUALLY)*	0	0
OTHER (INDIVIDUALLY)*	0	0

\* ATTACH ADDITIONAL PAGES AS NEEDED

**13B. PLEASE PROVIDE ALL SUPPORTING CALCULATIONS AS ATTACHMENT E. Not Applicable**

CALCULATE AN HOURLY AND YEARLY PTE OF EACH PROCESS EMISSION POINT (SHOWN IN YOUR DETAILED PROCESS FLOW DIAGRAM) FOR ALL AIR POLLUTANTS LISTED ABOVE INCLUDING INDIVIDUAL HAP'S (LISTED IN SECTION 112[b] OF THE 1990 CAAA), TAP'S (LISTED IN 45CSR27), AND OTHER AIR POLLUTANTS (E.G. POLLUTANTS LISTED IN TABLE 45-13A OF 45CSR13, MINERAL ACIDS PER 45CSR7, ETC.).

**14. CERTIFICATION OF DATA**

I, J. ROBERT GWYNNE (TYPE NAME) ATTEST THAT ALL THE REPRESENTATIONS CONTAINED IN THIS APPLICATION, OR APPENDED HERETO, ARE TRUE, ACCURATE, AND COMPLETE TO THE BEST OF MY KNOWLEDGE BASED ON INFORMATION AND BELIEF AFTER REASONABLE INQUIRY, AND THAT I AM A **RESPONSIBLE OFFICIAL**\*\* (PRESIDENT, VICE PRESIDENT, SECRETARY OR TREASURER, GENERAL PARTNER OR SOLE PROPRIETOR) OF THE APPLICANT.

SIGNATURE OF RESPONSIBLE OFFICIAL: \_\_\_\_\_



TITLE: EXECUTIVE VICE PRESIDENT

DATE: 01 / 17 / 17

\*\* THE DEFINITION OF THE PHRASE 'RESPONSIBLE OFFICIAL' CAN BE FOUND AT 45CSR13, SECTION 2.23.

**NOTE: PLEASE CHECK ENCLOSED ATTACHMENTS:**

☒ ATTACHMENT A   ☒ ATTACHMENT B   ☒ ATTACHMENT C   ☒ ATTACHMENT D   ☐ ATTACHMENT E

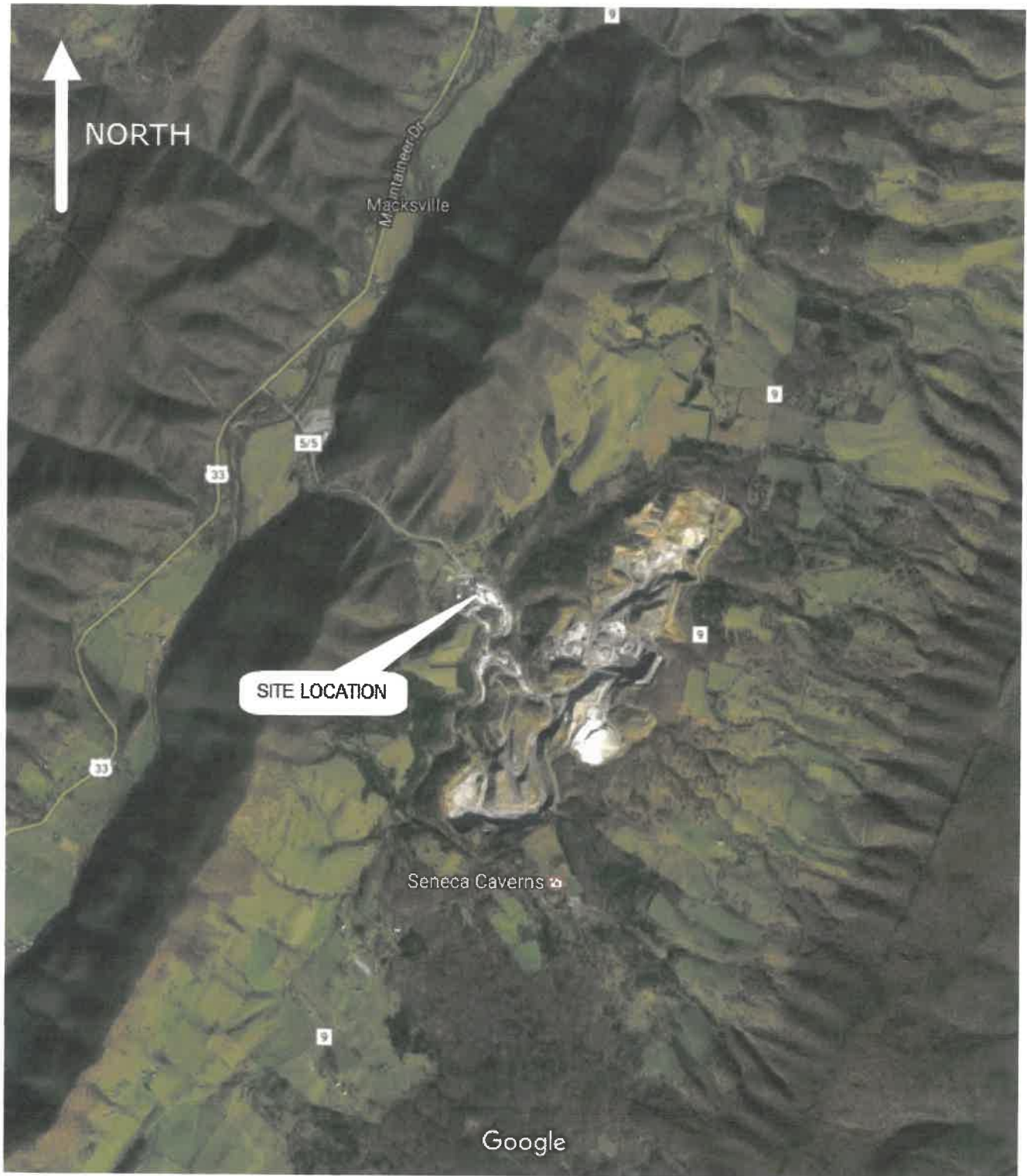
RECORDS ON ALL CHANGES ARE REQUIRED TO BE KEPT AND MAINTAINED ON-SITE FOR TWO (2) YEARS.

THE PERMIT DETERMINATION FORM WITH THE INSTRUCTIONS CAN BE FOUND ON DAQ'S PERMITTING SECTION WEB SITE:

[www.dep.wv.gov/daq](http://www.dep.wv.gov/daq)

## **Attachment A – Area Map**

## ATTCHMENT A – AREA MAP



### **Riverton Facility**

**Greer Industries, Inc. dba Greer Lime Company**

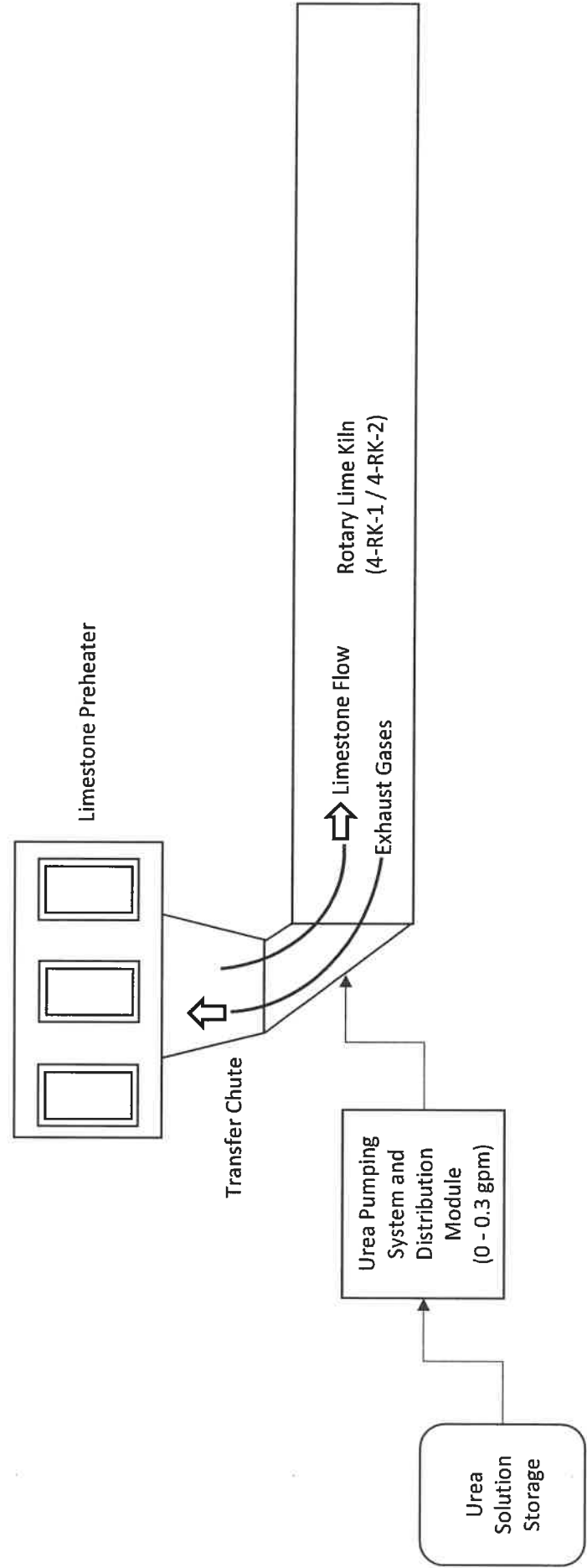
**Riverton, Pendleton County, West Virginia**

**640.00 km Easting, 4,293.00 km Northing, Zone 17**

## **Attachment B – Process Flow Diagram**



TYPICAL ARRANGEMENT



## **Attachment C – Process Description**

**ATTCHMENT C**  
**PROCESS DESCRIPTION**

Greer Industries, Inc. dba Greer Lime Company (Greer) is exploring the potential operation of a Selective Non-Catalytic Reduction (SNCR) system as an additional lime kiln control device at the plant in Riverton, Pendleton County, WV. SNCR is a chemical process for removing nitrogen oxides (NO<sub>x</sub>) from combustion exhaust gas. In the SNCR process, a reagent (urea solution) is injected into the hot exhaust gas where it reacts with NO<sub>x</sub>, converting it to nitrogen gas and water vapor. No catalyst is required for this process as it is driven by the high temperatures normally found in combustion sources. SNCR performance is dependent on exhaust gas temperature, residence time for mixing, amount of reagent injected, and uncontrolled NO<sub>x</sub> levels. It is Greer's understanding that reductions can be highly variable with estimated ranges of 25-60% efficiency.

Through this Permit Determination Request, Greer proposes to temporarily operate SNCR control systems in either one or both of the preheater rotary lime kilns (4-RK-1 and/or 4-RK-2). Their temporary operation is part of an emissions control assessment and performance evaluation. If installed on both kilns, the SNCR systems may be operated concurrently or consecutively. Total reagent flow through both SNCR systems operating concurrently will not exceed 0.3 gpm. Optimal SNCR operation will be established during the temporary evaluation that is anticipated not to exceed ninety (90) days from control system startup. System performance will be determined through concurrent stack sampling.

It is Greer's understanding that the proposed evaluation can be conducted without modification of our existing 45CSR13 permits (R13-1381A and R13-1788), based on the following:

1. The proposed control device is a commercial SNCR system that has been designed specifically to our kiln specifications and operating conditions.
2. No new regulated air pollutant discharge will result from the SNCR air pollution control equipment installation.
3. Ammonia is not a regulated pollutant in the State of West Virginia. However, the SNCR system has been designed to limit ammonia slip to less than 1 ppm. Additionally, the kilns operate at a near steady state condition which further limits generation of ammonia slip caused as a result of load changes.
4. Other than installation of the SNCR control system and its temporary operation for the purpose of data collection, Greer proposes no other physical plant modifications or changes in existing permit rates or conditions.
5. Any change in permitted NO<sub>x</sub> emissions requiring permanent operation of the SNCR control device system will be addressed in future permitting.

Greer seeks agreement from the Division of Air Quality that no permitting action is necessary to proceed with a temporary in-plant evaluation under actual operating conditions.

## **Attachment D – Safety Data Sheet**

# Safety Data Sheet

## SECTION 1 – IDENTIFICATION

### Name, Address, and Telephone of the Responsible Party

**Dyno Nobel Inc.**  
2795 East Cottonwood Parkway, Suite 500  
Salt Lake City, Utah 84121  
Phone: 801-364-4800 Fax 801-321-6703  
E-Mail: [dnna.hse@am.dynonobel.com](mailto:dnna.hse@am.dynonobel.com)  
[www.dynonobel.com](http://www.dynonobel.com)

**SDS #:** 1135

**Date:** 05/07/2015

**Supersedes:** 12/20/2012

### Product Identifier

**Product Form:** Liquid

**Product Name:** Urea Solution

### Other Means of Identification

**Trade Name(s):** Urea Solution, 32.5% or 40%

### Synonyms:

Urea  
46-0-0  
DEF (Diesel exhaust fluid)

**Product Class:** Urea Solutions

### Intended Use of the Product

Plant and crop fertilizer, DEF (diesel exhaust fluid)

**Uses advised against:** Not to be used as an ingredient for human food. Not approved for humans.

### Emergency Telephone Number

**FOR 24 HOUR EMERGENCY, CALL** **CHEMTREC (USA)** **800-424-9300**  
**CANUTEC (CANADA)** **613-996-6666**

## SECTION 2 – HAZARD(S) IDENTIFICATION

### Classification of the Substance or Mixture

While this material is not considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200), this SDS contains valuable information critical to the safe handling and proper use of the product. This SDS should be retained and available for employees and other users of the product.

**Classification (GHS-US)** Not classified

### Label Elements

**GHS-US Labeling** No labeling applicable

### Other Hazards

**Hazards Not Otherwise Classified (HNOC):** None known

## SECTION 3 - COMPOSITION/INFORMATION ON INGREDIENTS

### Mixture

Name	Product identifier	% (w/w)	Ingredient Classification (GHS-US)
Water	(CAS No) 7732-18-5	60 - 68	Not classified
Urea	(CAS No) 57-13-6	32 - 40	Not classified
Ammonia	(CAS No) 7664-41-7	< 0.1	Flam. Gas 2, H221 Liquefied gas, H280 Acute Tox. 3 (Inhalation:gas), H331 Skin Corr. 1B, H314 Eye Dam. 1, H318

# Safety Data Sheet

STOT SE 3, H335  
Aquatic Acute 1, H400  
Aquatic Chronic 2, H411

Ingredients, other than those mentioned above, as used in this product are not hazardous as defined under current Department of Labor regulations, or are present in de minimus concentrations (less than 0.1% for carcinogens, less than 1.0% for other hazardous materials).

## SECTION 4 - FIRST AID MEASURES

### Description of First Aid Measures

**Eye Contact:** Immediately flush with large amounts of water, including under the eyelids. If pain or irritation persists seek medical attention. Speed and thoroughness in rinsing eyes are important to avoid permanent injury.

**Inhalation:** Remove to fresh air and keep at rest in a position comfortable for breathing. Obtain medical attention if breathing difficulty persists.

**Skin Contact:** Remove contaminated clothing. Rinse immediately with plenty of water. Obtain medical attention if irritation develops or persists. Wash contaminated clothing before reuse.

**Ingestion:** Do not induce vomiting. Get medical attention immediately.

### Most Important Symptoms and Effects Both Acute and Delayed

**General:** May cause skin irritation and eye irritation.

**Inhalation:** May cause respiratory irritation.

**Skin Contact:** May cause skin irritation.

**Eye Contact:** May cause eye irritation.

**Ingestion:** Do not induce vomiting. Get medical attention immediately.

**Chronic Symptoms:** None expected under normal conditions of use.

### Indication of Any Immediate Medical Attention and Special Treatment Needed

If exposed and feeling unwell, seek medical advice (show the label where possible).

## SECTION 5 - FIRE-FIGHTING MEASURES

### Extinguishing Media

**Suitable Extinguishing Media:** Use extinguishing media appropriate for surrounding fire.

**Unsuitable Extinguishing Media:** Do not use a heavy water stream. Use of heavy stream of water may spread fire.

### Special Hazards Arising From the Substance or Mixture

**Fire Hazard:** Not combustible but may decompose at high temperatures.

**Explosion Hazard:** Product is not explosive.

**Reactivity:** Hazardous reactions will not occur under normal conditions.

### Advice for Firefighters

**Precautionary Measures Fire:** Exercise caution when fighting any chemical fire. Under fire conditions, hazardous fumes will be present.

**Firefighting Instructions:** Use water spray or fog for cooling exposed containers.

**Protection During Firefighting:** Do not enter fire area without proper protective equipment, including respiratory protection.

**Hazardous Combustion Products:** Ammonia. Nitrogen oxides.

**Reference to Other Sections:** Refer to section 9 for flammability properties.

## SECTION 6 - ACCIDENTAL RELEASE MEASURES

### Personal Precautions, Protective Equipment and Emergency Procedures

**General Measures:** Use proper hygiene practices and avoid excessive skin contact.

### For Non-Emergency Personnel

**Protective Equipment:** Use appropriate personal protection equipment (PPE).

**Emergency Procedures:** Evacuate unnecessary personnel.

# Safety Data Sheet

## For Emergency Personnel

**Protective Equipment:** Equip cleanup crew with proper protection.

**Emergency Procedures:** Ventilate area.

## Environmental Precautions

Prevent entry to sewers and public waters. Notify authorities if liquid enters sewers or public waters.

## Methods and Material for Containment and Cleaning Up

**For Containment:** Contain any spills to prevent migration and entry into sewers or streams.

**Methods for Cleaning Up:** Clean up spills immediately and dispose of safely. Transfer spilled material to a suitable container for disposal. Contact competent authorities as appropriate after a spill.

## Reference to Other Sections

See heading 8, Exposure Controls and Personal Protection.

## SECTION 7 - HANDLING AND STORAGE

### Precautions for Safe Handling

Store in compliance with all Federal, State, and local regulations. Store in a well-ventilated area, away from incompatible materials or sources of heat and ignition. Empty containers may contain residue and can be dangerous. Do not pressurize, cut, weld, braze, solder, drill, grind or expose such containers to heat, flames, sparks or other sources of ignition; they may evolve noxious fumes.

**Hygiene Measures:** Handle in accordance with good industrial hygiene and safety procedures. Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work.

### Conditions for Safe Storage, Including Any Incompatibilities

**Storage Conditions:** Store in compliance with all Federal, State, and local regulations.

**Incompatible Materials:** Nitric Acid, gallium, perchlorate, strong oxidizing agents, caustics and alkalis.

## SECTION 8 - EXPOSURE CONTROLS/PERSONAL PROTECTION

### Control Parameters

No Occupational Exposure Limits (OELs) have been established for this product or its chemical components.

### Exposure Controls

**Appropriate Engineering Controls:** Ensure adequate ventilation, especially in confined areas. Emergency eye wash fountains and safety showers should be available but not required.

**Personal Protective Equipment:** Safety glasses, gloves and general work clothing are recommended. Where ventilation is insufficient, wear respiratory protection. Wearing of appropriate protective clothing and gloves is suggested if epidermal sensitivity develops.



**Materials for Protective Clothing:** Not specified

**Hand Protection:** Wear chemically resistant protective gloves.

**Eye Protection:** Safety glasses.

**Skin and Body Protection:** Wear suitable protective clothing.

**Respiratory Protection:** Use a NIOSH-approved respirator or self-contained breathing apparatus whenever exposure may exceed established Occupational Exposure Limits.

**Environmental Exposure Controls:** Collect spilled material into containers for disposal. Do not flush to surface water. Spilled chemical can be used as fertilizer (46-0-0). Follow applicable Federal, State and local reporting requirements.

**Consumer Exposure Controls:** Do not eat, drink or smoke during use

# Safety Data Sheet

## SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

### Information on Basic Physical and Chemical Properties

Physical State	: Liquid
Appearance	: Colorless
Odor	: Slight ammonia
Odor Threshold	: Not available
pH	: Not available
Evaporation Rate	: Not available
Melting Point	: Not available
Freezing Point	: Not available
Boiling Point	: Not available
Flash Point	: Not applicable
Auto-ignition Temperature	: Not available
Decomposition Temperature	: 135 °C (275 °F) (Urea)
Flammability (solid, gas)	: Not applicable
Lower Flammable Limit	: Not applicable
Upper Flammable Limit	: Not applicable
Vapor Pressure	: Not available
Relative Vapor Density at 20 °C	: Not available
Specific Gravity	: 1.09 - 1.13 g/cc (9.1 - 9.4 lb/gal)
Solubility	: Not available
Partition Coefficient: N-Octanol/Water	: Not available
Viscosity	: Not available
Explosion Data – Sensitivity to Mechanical Impact	: Not expected to present an explosion hazard due to mechanical impact.
Explosion Data – Sensitivity to Static Discharge	: Not expected to present an explosion hazard due to static discharge.
Crystallization Temperature	: -11°C (12°F) for 32.5% and 0°C (32°F) for 40% solution

## SECTION 10 - STABILITY AND REACTIVITY

**Reactivity:** Hazardous reactions will not occur under normal conditions.

**Chemical Stability:** Stable under recommended handling and storage conditions (see section 7).

**Possibility of Hazardous Reactions:** Hazardous polymerization will not occur.

**Conditions to Avoid:** Avoid exposing containers to heat or flame. Keep separated from incompatible materials.

**Incompatible Materials:** Nitric acid. Gallium. Perchlorates. Strong oxidizers. Caustic products. Alkalies.

**Hazardous Decomposition Products:** Ammonia. Nitrogen oxides.

## SECTION 11 - TOXICOLOGICAL INFORMATION

### Information on Toxicological Effects - Product

**Acute Toxicity:** Not classified

**LD50 and LC50 Data:** Not available

**Skin Corrosion/Irritation:** Not classified

**Serious Eye Damage/Irritation:** Not classified

**Respiratory or Skin Sensitization:** Not classified

**Germ Cell Mutagenicity:** Not classified

**Teratogenicity:** Not available

**Carcinogenicity:** Not classified

**Specific Target Organ Toxicity (Repeated Exposure):** Not classified

**Reproductive Toxicity:** Not classified



# Safety Data Sheet

**Specific Target Organ Toxicity (Single Exposure):** Not classified

**Aspiration Hazard:** Not classified

**Symptoms/Injuries After Inhalation:** May cause respiratory irritation.

**Symptoms/Injuries After Skin Contact:** May cause skin irritation.

**Symptoms/Injuries After Eye Contact:** May cause eye irritation.

**Symptoms/Injuries After Ingestion:** Abdominal pain, nausea, vomiting and gastrointestinal irritation may result. (Urea is a protein to ruminants, animals with the enzyme Urease in their digestive systems, but is moderately toxic to humans when ingested).

**Chronic Symptoms:** None expected under normal conditions of use.

## **Information on Toxicological Effects - Ingredient(s)**

### **LD50 and LC50 Data:**

<b>Urea (57-13-6)</b>	
LD50 Oral Rat	8471 mg/kg
<b>Ammonia (7664-41-7)</b>	
LC50 Inhalation Rat	5.1 mg/l (Exposure time: 1 h)
LC50 Inhalation Rat	2000 ppm/4h (Exposure time: 4 h)

## **SECTION 12: ECOLOGICAL INFORMATION**

**Toxicity** Not classified

<b>Urea (57-13-6)</b>	
LC50 Fish 1	16200 - 18300 mg/l (Exposure time: 96 h - Species: Poecilia reticulata)
EC50 Daphnia 1	3910 mg/l (Exposure time: 48 h - Species: Daphnia magna [Static])
<b>Ammonia (7664-41-7)</b>	
LC50 Fish 1	0.44 mg/l (Exposure time: 96 h - Species: Cyprinus carpio)
EC50 Daphnia 1	25.4 mg/l (Exposure time: 48 h - Species: Daphnia magna)
LC 50 Fish 2	0.26 - 4.6 mg/l (Exposure time: 96 h - Species: Lepomis macrochirus)
<b>Persistence and Degradability</b> Not available	
<b>Bioaccumulative Potential</b>	
<b>Urea (57-13-6)</b>	
BCF fish 1	< 10
Log Pow	-1.59 (at 25 °C)
<b>Ammonia (7664-41-7)</b>	
Log Pow	-1.14 (at 25 °C)
<b>Mobility in Soil</b> Not available	
<b>Other Adverse Effects</b>	
<b>Other Information:</b> Avoid release to the environment.	

## **SECTION 13 - DISPOSAL CONSIDERATIONS**

**Waste Disposal Recommendations:** Dispose of waste material in accordance with all local, regional, national, and international regulations.

**Additional Information:** Spilled chemical can be used as fertilizer.

## **SECTION 14 - TRANSPORT INFORMATION**

**In Accordance with DOT** Not regulated for transport.

**In Accordance with IMDG** Not regulated for transport.

**In Accordance with IATA** Not regulated for transport.

**In Accordance with TDG** Not regulated for transport.

## **SECTION 15 - REGULATORY INFORMATION**

**US Federal Regulations**

SDS# 1135 Date: 05/07/2015

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**DYNO**  
Dyno Nobel

Groundbreaking Performance

# Safety Data Sheet

<b>Urea (57-13-6)</b>	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	
<b>Ammonia (7664-41-7)</b>	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	
Listed on the United States SARA Section 302	
Listed on United States SARA Section 313	
<b>SARA Section 302 Threshold Planning Quantity (TPQ)</b>	500
<b>SARA Section 311/312 Hazard Classes</b>	Fire hazard Immediate (acute) health hazard Sudden release of pressure hazard
<b>SARA Section 313 - Emission Reporting</b>	1.0 % (includes anhydrous Ammonia and aqueous Ammonia from water dissociable Ammonium salts and other sources, 10% of total aqueous Ammonia is reportable under this listing)

## Canadian Regulations

<b>Urea Solution, 32.5% or 40%</b>	
WHMIS Classification	Uncontrolled product according to WHMIS classification criteria
<b>Urea (57-13-6)</b>	
Listed on the Canadian DSL (Domestic Substances List)	
WHMIS Classification	Uncontrolled product according to WHMIS classification criteria
<b>Ammonia (7664-41-7)</b>	
Listed on the Canadian DSL (Domestic Substances List)	
Listed on the Canadian IDL (Ingredient Disclosure List)	
IDL Concentration 1 %	
WHMIS Classification	Class A - Compressed Gas Class B Division 1 - Flammable Gas Class D Division 1 Subdivision A - Very toxic material causing immediate and serious toxic effects Class E - Corrosive Material
This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the SDS contains all of the information required by CPR.	

## SECTION 16: OTHER INFORMATION, INCLUDING DATE OF PREPARATION OR LAST REVISION

**Revision Date** : 05/07/2015  
**Other Information** : This document has been prepared in accordance with the SDS requirements of the OSHA Hazard Communication Standard 29 CFR 1910.1200.

### Party Responsible for the Preparation of This Document

Dyno Nobel Inc.  
 2795 East Cottonwood Parkway, Suite 500  
 Salt Lake City, Utah 84121  
 Phone: 801-364-4800

### Disclaimer

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Dyno Nobel SDS

SDS# 1135 Date: 05/07/2015

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**DYNO**  
 Dyno Nobel

Groundbreaking Performance